

**IN THE UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF ARKANSAS  
WESTERN DIVISION**

**DALE STROUD and KARI STROUD**

**PLAINTIFFS**

**v.**

**No. 4:12-cv-500-DPM**

**SOUTHWESTERN ENERGY COMPANY and  
SEECO, INC.**

**DEFENDANTS**

**ORDER**

1. Mr. and Mrs. Stroud, Southwestern, and related entity SEECO are the remaining parties in this dispute, which alleges trespass, and resulting unjust enrichment, from the Campbell 09-17 3-29 SWDW fracking waste disposal well. (There are many Campbell wells in the area; but the Court will refer to “the” Campbell well to simplify). To sharpen the issues, the Court ordered phased discovery: “The first, and primary, issue for discovery is whether the waste fluid has migrated to the subsurface strata of the [Strouds’] real property.” *No. 70 at 2*. The parties have completed that discovery, albeit with several disputes, which the Court resolved. The Court also invited the parties to brief, after phase 1 discovery, whether the case should continue. *Ibid*. Southwestern and SEECO now ask for judgment as a matter of law, saying

the record doesn't contain facts sufficient for a reasonable person to conclude that waste is or was under the Strouds' land. The Strouds counter that the record is adequate to support this conclusion. They want more discovery and a trial. Taking the evidence in the light most favorable to the Strouds, including giving them the benefit of all reasonable inferences, the Court concludes that there's just not enough of record to support a verdict. *Solomon v. Petray*, 795 F.3d 777, 788 (8th Cir. 2015); *see also Brown v. Fortner*, 518 F.3d 552, 558 (8th Cir. 2008). While it *seems* likely, considering all the circumstances, that the waste migrated under the Strouds' land, without more expert testimony on the complicated geology and on waste flow, a juror would have to speculate to conclude that a trespass by migration actually occurred. *Solomon*, 795 F.3d at 788.

2. The Strouds' property is adjacent to the Campbell disposal well in Conway County. Their property line is approximately 180 feet west of the well head. The Strouds' north-south boundary runs for approximately 1000 feet. Appendix A is an annotated aerial photograph, which was filed as *No. 152-1* page 104, and helpfully maps the area involved. In 2009, a landman, who said he was with Southwestern, approached Mr. Stroud about selling

some land for a disposal well. Because this is family property, Stroud demurred. The landman then proposed that Southwestern lease the right to inject fracking waste water into an exhausted and plugged production well on the Strouds' property — the Hillis Heirs well. See the map. Stroud and the landman haggled: they agreed on two cents a barrel for injected waste water; they agreed on a five-year term; but Southwestern balked at the \$25,000 upfront payment Mr. Stroud wanted. The company stuck at \$20,000. When drilling began on a neighbor's adjoining property, Stroud questioned the landman. He supposedly replied that Stroud had been greedy, and "they were going to use the well on [the neighbor's] property to fill up the empty gas space under [the Strouds'] property since it was all connected." *No. 155 at 1-2.*

Southwestern got approval from the Arkansas Oil and Gas Commission before drilling the Campbell disposal well. In those proceedings, it was assumed that the waste would migrate radially from the wellbore. This assumption, though, was not questioned or scrutinized. The Commission was focused, among other things, on the integrity and capacity of the Orr/Barton

B. Sands reservoir – the formation thousands of feet underground that had once held natural gas and could now hold the fracking waste water.

Experts on both sides of this case, as well as Southwestern's director of geosciences for the Fayetteville Shale Division, testified that the Barton Sands is geologically heterogeneous; in simplistic terms, there's sand and there's rock. The Strouds emphasize that the only sealing faults are a mile or so north and south of the well, not west along the Strouds' property line. The experts further agreed that there are clay drapes among the rock in the Barton Sands. No one could say whether one of these drapes was or was not an impediment to westward migration of the waste fluid toward the Strouds' property.

According to Commission reports, Southwestern injected approximately 7.6 million barrels of waste fluid into the Campbell well. The surface of the Strouds' property has not been contaminated or affected. Because of the expense involved, the Strouds haven't done any drilling to sample the subsurface strata for migrated waste. Southwestern did not do any computer modeling that would show the likely pattern of migration. This kind of modeling can be done; but it involves lots of data, much of which is confidential business information; and it's expensive. Because of the expense,

the Strouds have not provided an expert opinion based on this kind of model. Instead, the Strouds offered the testimony of William Dowdle, an engineer with long experience in the petroleum industry.

Dowdle derived an equation, which he said demonstrates migration under the Strouds' land. His equation assumes that the waste flowed radially. Stripped to essentials, Dowdle's equation shows the volume of a cylinder that would result from injecting 7.3 million gallons of waste water into the Barton Sands. Southwestern and SEECO call this a soup can. The label is pejorative but accurate. Dowdle acknowledged that, given the heterogeneity in the formation, the flow wouldn't be exactly radial, but he said it would be close. *No. 152-1 at 157-58* (deposition pagination). When confronted with various other flow patterns—one looked like an airplane propellor, another like a pizza—Dowdle testified that they were possibilities, though not likely ones. But, he said, based on his experience and training, it was almost certain that some waste fluid had migrated underneath the Strouds' land. *No. 152-1 at 252* (deposition pagination).

3. Dowdle's opinion fails scrutiny under Federal Rule of Evidence 702. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592-595 (1993);

*Robertson v. Norton Company*, 148 F.3d 905, 907–08 (8th Cir. 1998). First, Dowdle’s equation assumes the answer to the fighting issue. The equation assumes a radial flow — “That’s the underlying assumption of the whole equation. So we start there.” *No 152-1 at 157* (deposition pagination). Dowdle started his analysis where he should have ended. His equation would not help the jury determine the fact in issue: whether migration under the Strouds’ property actually occurred; the equation assumes — through radial flow — that it did. *Compare* FED. R. EVID. 702(a). Second, Dowdle’s testimony is not “based on sufficient facts or data.” FED. R. EVID. 702(b). What’s missing, as was highlighted during the motion hearing, is a geologist’s opinion about this subsurface’s particulars. No Southwestern/SEECO witness’s testimony fills this gap. The record provides too blurry a picture of the Barton Sands for Dowdle, who is not a geologist, to say that migration under the Strouds’ property likely occurred. There are, third, other methodological problems with Dowdle’s equation. Its ancestor was developed for surface water calculations. The equation hasn’t been published or tested. The creator of the equation’s ancestor looked over Dowdle’s work in a related case and gave a thumbs up. This was peer review at the margin. The equation seems correct,

as far as the math goes. But there has been none of the wide-spread scrutiny that usually helps validate scientific work. *Robertson*, 148 F.3d at 907–08.

Finally, putting aside the equation, what about Dowdle’s experience-based conclusion that, considering all the facts, it would be “virtually impossible” to inject more than 7 million barrels of waste into Campbell well without some having migrated under the Strouds’ property? *No 152-1 at 252* (deposition pagination). This general conclusion presents an application problem. FED. R. EVID. 702(d). There’s simply too great a gap between the data of record and the conclusion. *Kumho Tire Company Limited v. Carmichael*, 526 U.S. 137, 154–55 (1999). Simply because Dowdle (or any expert) speaks the words, does not make the conclusion so.

4. Beyond Dowdle, here’s the factual record. The testimony from Southwestern’s geoscientist doesn’t support the conclusion that the waste was or is under the Strouds’ land. The company didn’t model flow. Southwestern’s engineer critiqued Dowdle’s work; he gave no opinion on migration. The record also includes the landman’s admission, which the Court will consider under Rule 801(d)(2)(D): in the landman’s lay opinion, the area under the Strouds’ property would be filled up by waste injected in the

neighbor's well. Southwestern tried to lease the Hillis Heirs well on the Strouds' ground first, which creates a reasonable inference of some underground connection in the Barton Sands. The isopach map about the Barton Sands shows that part of this formation lies beneath the Strouds' land. Consider three more facts: the close proximity of the Campbell well to the Strouds' property line; the large volume of waste injected; and the small area leased—approximately three acres. The experts are unanimous that the seven-plus million barrels of waste water injected could not possibly fit in the reservoir space directly beneath the leasehold.

All this, the Court concludes, adds up to a strong “maybe.” It is certainly possible that some of the injected waste migrated into the Strouds' subsurface property. But a jury would be speculating to return a verdict that a trespass did or did not occur. *Solomon*, 795 F.3d at 788. The parties recognized early on, in this case and related litigation, that expert testimony was crucial. How fluid moves thousands of feet underground is a complicated issue beyond the reach of those without specialized education and experience. Missing from this record is a methodologically sound expert opinion that marries geology and waste flow. Without that opinion, in the



absence of some proof of actual contamination, a person could not reasonably decide one way or the other about this alleged underground trespass without some guesswork.

\* \* \*

The Strouds' motion for partial judgment, No 148, is denied.  
Southwestern and SEECO's motion for judgment, No 151, is granted.

So Ordered.

D.P. Marshall Jr.  
D.P. Marshall Jr.  
United States District Judge

25 September 2015



